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Volume II

Assessment of Man-Ascendent Skills for Predetermining Success As a Senior NCO

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by

HumRRO Staff

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This report explores ways to identify potentially successful NCOs early in their careers. Refined versions of five tests that were designed to measure NCO capabilities in the areas of personnel management, training, and counseling are discussed, and field validation of these tests is analyzed. In general, no predictive relationship between the variables studied and the quality of NCO performance was found.

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HumRRO

Volume II

Assessment of Man-Ascendent Skills for Predetermining Success As a Senior NCO

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FINAL REPORT

ASSESSMENT OF MAN-ASCENDENT
SKILLS FOR PREDETERMINING
SUCCESS AS A SENIOR NCO

VOLUME II

by

HumRRO Staff

Submitted to

U.S. Army Research Institute for the
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by
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BACKGROUND AND OBJECTIVES

BACKGROUND

This report presents the results of additional research performed under Contract DAHC19-76-C-0023 by HumRRO for ARI.* The earlier research developed tests aimed at the measurement of the personnel management, training, and counseling skills of NCOs. The tests were specifically oriented toward the assessment of NCO awareness and use of skills and theories associated with the fields of performance counseling, contingency management, and training technology.

The five tests designed to measure these skills were administered in December 1976 to a sample of approximately 50 NCOs in pay grades E5 through E9. Psychometric evaluation of this initial tryout of the test battery resulted in revisions of some of the tests. In addition, during the initial tryout of the preliminary test battery, it was not possible to obtain independent evaluations of the examinees' leadership performance through co-worker and subordinate evaluations of the NCOs' use of the skills. It was apparent that additional research was needed to validate the revised tests and to attempt to obtain additional criteria for evaluating quality of performance or skill mastery.

OBJECTIVES

The research had the following objectives:

Task 1: Refine the five tests developed earlier by (a) Performing subjective and statistical analyses to increase the reliability of the tests titled "Beliefs About Behavioral Operations" and "Implementing Skills and Habits", and (b) conducting analyses to improve the predictive validity of the remaining three tests.

>   (1) "Mental Analysis of Problem Situations".
>   (2) "Reinforcing Conditions".
>   (3) "Effects of Behavioral Actions".

In addition, Task 1 would attempt to obtain criteria measures involving co-worker and subordinate, as well as supervisor evaluations of NCO proficiency in the general area of personnel management.

Task 2: Conduct a field validation of the revised tests to provide a basis for an evaluation of the relationships between test performance and (a) NCO rank and (b) NCO mastery level, as defined by supervisory ratings and time in previous grade.

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* The initial research is described in "Assessment of Man-Ascendent Skills for Pre-determined Success as a Senior NCO," (Vol. I) by Whitmore, P.G., Larson, S. M., and Foskett, R. J., HumRRO Report No. PW-76-06-25, Jan. 1977.

ORGANIZATION OF THE REPORT

Due to the diversity of the analyses performed, each test will be discussed separately. The first part of this report will discuss test revisions. The second part will be concerned with the field validation activities.

TEST REVISIONS

TEST NO. 1   BELIEFS ABOUT BEHAVIORAL OPERATIONS (BABO)

Description

The BABO test presents several brief descriptions of human relations situations in the Army. The examinee selects one of four or five statements which best reflects what he would be inclined to say about the situation. Distractors represent "irrational beliefs".

The original version of the test, as administered in December 1976, contained 30 items. As a result of item analysis, the test was reduced to 15 items. Although an internal consistency estimate of the reduced test was relatively low (r =0.64), test scores did correlate significantly with pay grade (r =0.56). In discussing these results, earlier investigators hypothesized that a heterogeneous factorial structure may have been responsible for the low reliability estimate.

Item Analytic Studies

As part of the additional research, factor analysis was performed on the original BABO data for the 30-item test. No factor structure was indicated, but a discriminant analysis revealed that five of the 30 items reliably differentiated between the lower pay grades (E5-7) and the higher pay grades (E8-9); 46 of the 48 persons were accurately classified based on their answers for the five questions.

Biserial correlations also were computed for the individual item responses and total test score. The purpose of performing this analysis for the December data was to determine if those items identified as most discriminating by the discriminant analysis also would be identified by item analysis procedures not requiring use of a computer. The results of the biserial item analysis are presented in Table A-1 of the Appendix. Four of the five items identified as most discriminating by the discriminant analysis also were identified as such by the biserial analysis. Based on this concurrence, it was concluded that the item analyses performed for other test data could use the computer-free correlation techniques.

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Revised Scoring Key

The original key used for scoring the BABO test was based on the judgments of psychologically-oriented research staff concerning "rational and irrational" beliefs about interpersonal reactions to situations in a military environment. In the conduct of the additional research, it was assumed that the researchers' opinions concerning "rationality" may not have coincided with the beliefs of experienced service personnel. Accordingly, the December 1976 data for BABO were examined to identify the most common responses to the test items of NCOs in pay grades E8-9. That analysis yielded a new scoring key for the 15-item test. Scoring for nine of the 15 items was changed, either by eliminating alternative answers (5 items), or by scoring a different alternative as correct (4 items).

Second Field Tryout

The second tryout of the test battery was conducted in May 1977. Forty-eight NCOs participated in this evaluation, with the numbers of persons in pay grades E5 through E9 varying between eight and eleven. This sample of NCOs was provided by the Army Air Defense School and represented school support TO&E units, as well as the Staff and Faculty Battalion. The majority of the high pay grade personnel were assigned to the latter organization.

CO-WORKER/SUBORDINATE RATINGS

As part of the second tryout, the 48 NCOs were requested to provide co-worker and subordinate evaluations using versions of the "Implementing Skills and Habits" rating form. Such ratings were obtained for only 16 of the 48 examinees. This set of evaluations had been intended as a criterion measure to evaluate "quality" of performance. Due to the limited return, analyses of this criterion measure did not provide any useful information.

PREDICTING PAY GRADE

The December 1976 tryout had yielded a correlation of 0.56 between the BABO score and pay grade, using the psychologist's key. For the second tryout, this key yielded a correlation of 0.15 (not significant) whereas the correlation for the NCO key was 0.36. Although the latter correlation was statistically significant, it was appreciably lower than the original validity estimate.

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PREDICTING SUPERVISOR'S RATINGS

A 10-item rating form was used to obtain supervisor's evaluations of the management/leadership performance of the NCOs. Such evaluations were obtained for 40 of the 48 examinees. A copy of this rating form is presented in Appendix B. The correlation between the supervisors' ratings and the BABO score for the original and the NCO key was 0.07 and 0.35, respectively. The correlation with the NCO key was statistically significant. The correlation between supervivors' ratings and pay grade was 0.29, whereas the correlation between ratings and the NCOs' years of service was 0.19. Neither correlation was statistically reliable.

Test Reliability

The initial tryout of the tests indicated that the BABO test had an internal consistency reliability of 0.64. The Kuder-Richardson (1956) formula No. 20 was also employed for estimating the test reliability for the May 1977 second tryout. The reliability of the BABO test, using the original key was 0.48; for the NCO key, the reliability estimate was 0.46. These results support the results of the factor analysis which did not reveal a factor structure, suggesting that each of the hypothetical situations described in the test represents a very unique judgmental problem for the examinee. This hypothesis, if true, would explain the relatively low reliability estimates that have been obtained for this test.

TEST NO. 2   IMPLEMENTING SKILLS AND HABITS (ISH)

Description

The ISH test consists of three inventories which contain statements describing specific situations involving supervision, training, and counseling. The respondent indicated how often each action is performed. This test was used to obtain co-worker and subordinate ratings as well as for self-inventory of skills. The following discussion is concerned only with the self-evaluations.

In the initial tryout (December 1976) the correlation of the self-evaluation scores for ISH with pay grade was 0.52. This test also had an intercorrelation of 0.51 with the test concerning "Reinforcing Conditions". The ISH test combined with BABO jointly accounted for approximately 50 percent of the variance in predicting pay grade.

Item Analysis

The ISH test is comprised of 64 items. The item analyses of data obtained in the _second_ field tryout indicated that 37 of the test items had biserial correlation of less than 0.30 with total test score. The largest proportion of these items concerned counseling skills (13 of 21 items). Correlations of less than 0.30 were obtained for 8 of the 17 items concerning supervisory skills, and 16 of the 26 items concerning training failed to meet that level. In summary, about half of the ISH items could be eliminated without degrading the potential validity of the test. The point biserial correlations are presented in Table A-2 of the Appendix.

Second Tryout Results

The correlation between ISH score and pay grade for the second tryout was 0.47, which was comparable to the relationship obtained in the initial tryout ($r = 0.51$); see Table 1. The ISH score had a very low correlation with supervisor rating ($r = 0.08$), but a moderately high, but nonsignificant relationship with the co-worker/subordinate ratings ($r = 0.37$ with 14 degrees of freedom). It also was found that the ISH score was significantly correlated with the score of the Reinforcing Conditions test ($r = 0.38$) and with years in service ($r = 0.49$).

TABLE 1
CORRELATION MATRIX FOR MAY DATA

	ISH-Self Rating	MAPS	RC	EBA Orig. Key	EBA-NCO Key II	Co-Worker Subord- nate	Super- visor Rating	Rank	Years in Service
BABO Original Key	.104	-.137	.058	-.163	-.300	.147	.074	.148	.083
BABO NCO Key	.237	-.042	.235	-.241	-.376*	.013	.354*	.358*	.340*
ISH-Self Rating (%)		-.151	.378*	-.110	.033	.366	.078	.472*	.494*
MAPS			.005	.292	.274	-.071	-.016	-.060	-.080
RC				-.275	.182	.248	.048	.212	.162
EBA Original Key					.468*	-.179	-.054	-.295*	.146
EBA NCO Key						-.352	-.195	-.315*	.313*
Co-worker Subordinate							.459	.538*	.390
Supervisor Rating								.294	.189
Rank									.920*

*Significant (.05)
EBA AND MAPS Data are inverted (scores reflect deviation from key).

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PART-WHOLE CORRELATIONS

The part-whole correlations were computed to examine the dependencies of the total test score on the three subtests. The correlations were as follows:

a. Training; r = 0.91
b. Supervisory; r = 0.78
c. Counseling; r = 0.88

The intercorrelations of the subtest scores are listed below:

a. Training vs. Supervisory; r = 0.56
b. Counseling vs. Supervisory; r = 0.52
c. Counseling vs. Training; r = 0.78

All of the part-whole and intercorrelations were significant at the .05 level.

These results suggest that this test is sampling skills from three different behavioral areas. Although two of the subtest intercorrelations are moderate, each subtest is correlated with total test score. Based on these results, the final version of the ISH test should contain items representing all three of the interpersonal skill areas, although those items in each subtest that demonstrated low discriminating power were eliminated.

Test Reliability

The response choices for the ISH test consist of a five point scale which the respondent uses to indicate the frequency with which he performs specific actions. In order to use an internal consistency estimation procedure for determining reliability, the two most "desirable" response alternatives (as judged by the research staff) were scored as correct choices and the remaining three alternative choices were scored as incorrect. Employing this rationale for scoring the test, the Kuder-Richardson estimate of reliability (Formula No. 20) was 1.00. In other words, the respondents were perfectly consistent in their responses to the 64 items. As stated previously, this test could be substantially reduced in length without degrading its predictive utility.

TEST NO. 3   MENTAL ANALYSIS OF PROBLEM SITUATIONS (MAPS)

Description

The MAPS test presents the examinee with eight problem situations
that are intended to be realistic with reference to Army personnel man-
agement problems. With each problem situation, three lists are presented
concerning (a) the nature of the problem, (b) the standards that could be
established for evaluating solutions, and (c) alternative solutions. The
examinee indicates the relevance of each alternative to the problem descrip-
tion for each of the three lists.

In the initial tryout, scores on the MAPS tests were correlated with
the BABO scores, but not with the criterion measure, pay grade.

Item Analysis

Because of the complexity of the scoring system used for the MAPS test,
item analysis could not be applied.

Second Tryout

The correlations between MAPS scores and the two criterion measures
pay grade and supervisor ratings, were 0.06 and -0.02 respectively. The
correlation between the test scores and years in service was -.08. Each
of the subparts of MAPS (Problems, Standards, and Solutions) was signifi-
cantly correlated with total score. The correlations ranged from 0.62 to
0.82; however none of the part scores was significantly correlated with the
criterion measures. It was of interest to note that co-workers/subordinate
ratings were negatively correlated with the MAPS score ($r = -0.71$). The
correlation was not significant.

Based on the results of the first and second tryouts, it would appear
that the content is not sensitive to differences in the problem-solving
abilities of NCOs. An alternative hypothesis is that variation in problem
solving abilities of NCOs is unrelated to either the rank they attain or the
criteria used by supervisors in evaluating their subordinates.

TEST NO. 4   REINFORCING CONDITIONS (RC)

Description

This inventory presents positive and negative events that could have occurred during three phases of an NCO's career: Basic Combat training, first MOS assignment, and first job as an NCO. The examinee indicates how often he experienced each event.

During the first tryout, scores on this test were not correlated significantly with paygrade (r = 0.24). However, the RC test scores were significantly correlated with ISH scores (r = 0.51).

Item Analyses

Item analyses were performed for the second tryout. These analyses indicated that 17 of the 38 items had item/total score correlations of 0.30 or less. Elimination of the poorly discriminating items would reduce the test length by more than one-third.

Second Tryout

In the second tryout the correlation between RC score and pay grade was 0.21, which was comparable with the validity coefficient in the earlier tryout. It also was found that the RC score did not have significantly high correlations with either the other parts of the battery or the supervisors' ratings. These results indicated that the RC test could be eliminated as a predictor of NCO achievement.

Test Reliability

For the RC test the examinee indicated, by means of a five point scale, how frequently each positive or negative event had occurred in his experience. As in the case of the ISH test, it was necessary that this scalar dimension be transformed to a right-wrong classification. The choices for the two most "desirable" responses were considered as "correct"; the other alternatives were regarded as incorrect answers. Based on this scoring system, the Kuder-Richardson Formula No. 20 procedure for estimating test reliability yielded an estimate of 0.99. As in the case of some of the other tests, it is obvious that the length of this measurement instrument could be reduced without degrading whatever predictive power that it may possess.

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TEST NO. 5   EFFECTS OF BEHAVIORAL ACTIONS (EBA)

Description

The EBA test contains descriptions of nine episodes representing types of interpersonal activities performed by supervisors and trainers concerning subordinates. The examinee indicates the likelihood there will be changes in the frequency of various specified consequent actions by the subordinates. The "correct" answer is based on interpretation of contingency management principles. In the original tryout, this test had a correlation with pay grade of 0.14.

Revised Scoring Key

An alternative scoring key was developed for the EBA test which was based on the most frequent answers of the senior NCOs who participated in the initial tryout. This key was evaluated, along with the key used in the first tryout.

Second Tryout Results

The correlation between pay grade and the EBA scores for the original and the NCO keys for the second tryout were 0.295 and 0.315 respectively. Both correlations were statistically significant. Apparently, the changes made to the scoring key did not affect the estimates of this test's validity. During the second tryout, the EBA test correlation with pay grade was significant. However, the EBA scores were not significantly correlated with supervisors' ratings ($r = 0.19$ for the NCO key, and a correlation of 0.05 was obtained for the original key). In the original tryout, the EBA score was not significantly correlated with the criterion measure, pay grade.

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PROMOTION RATE AND TEST PERFORMANCE

Hypothesis

During the two tryouts of the test battery it was not possible to obtain satisfactory measures of "quality of performance". Although the supervisors' ratings were intended to provide one measure of this criterion, the brevity of the rating form and its subjective nature created some doubts concerning its sensitivity or discriminating power. It was hypothesized that the amount of time a soldier spent in his previous pay grade would be related to his test scores. More specifically, it was hypothesized that the NCOs who were promoted earlier than average would possess more of the skills sampled by the test battery. Since this potential relationship had not been examined in the initial tryout, the data for both tryouts were pooled for the evaluation of this relationship, if any.

The analyses of the relationship between test performance and months in grade before the person's last promotion were conducted only for the BABO, ISH, and EBA tests. The remaining tests were not included in this phase of the research because they had shown no relationship with the established criterion measures. A sub-sample of NCOs for whom we had complete data was used in these analyses. For each pay grade, the median months in grade at the time of each man's last promotion was computed. The sample subsequently was partitioned into two groups of 90 persons. Analysis of variance procedures (Veldman, 1967) was used to evaluate (a) the overall differences in test performance of the two groups, (b) the effects of rank (pay grade), and the interaction of these two variables.

Results

BABO

The analysis of variance is shown in Table 2.

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TABLE 2

BABO 2x5 ANOVA

SOURCE OF VARIATION	SUM OF SQUARES	df.	VARIANCE ESTIMATE	
Promotions	0.1	1	.1	S_r^2
Pay Grade	88.6	4	22.15	S_c^2
Interaction	48.18	4	12.05	S_i^2
Within	310.22	80	3.88	S_w^2
Total	447.12	89		

F_i = 3.11   4/80 df. $p < .05$

F_r = .01   1/80 df.   NS

F_c = 5.71   4/80 df. $p < .05$

The analysis yielded the following results:

a. The overall difference in BABO scores for early vs. late promotions was not significant.

b. The average scores increased as a function of rank.

c. The interaction between promotion time and pay grade was statistically significant.

The relationship between average BABO score and pay grade for the two groups is shown in Figure 1. These results indicate that, although those promoted earlier tend to possess more "humanistic" beliefs, in the more junior pay grades, such persons tend to be promoted later. The variation is most striking for grade E5, and some type of transition apparently occurs between grades E6 and E7.
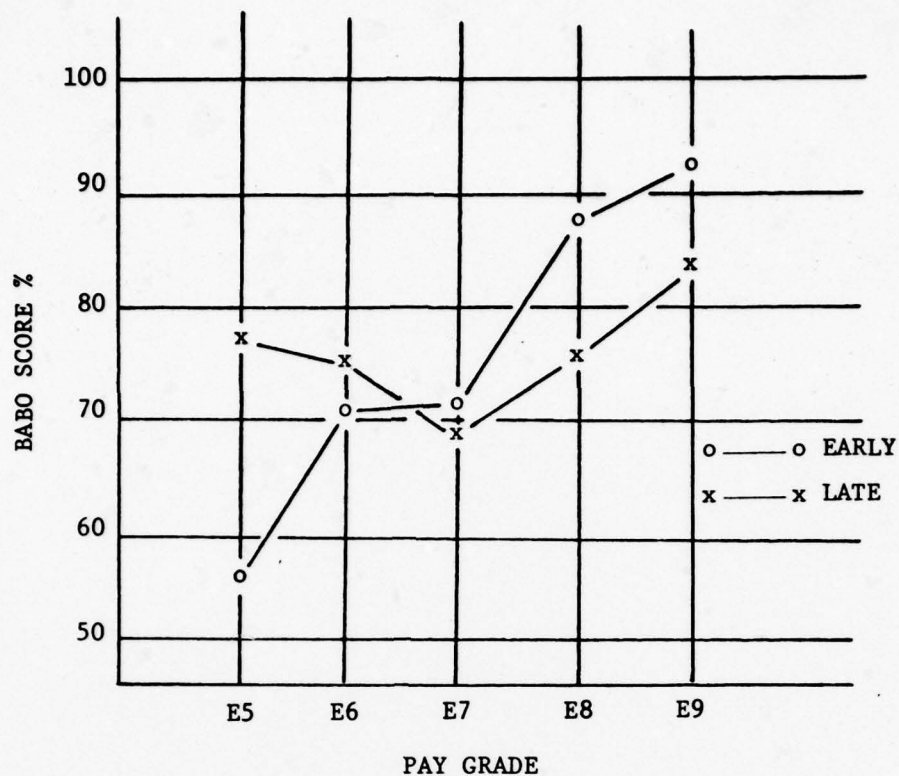
Figure 1: Average BABO Score Per Pay Grade
for Early and Late Promotions

ISH

The analysis of variance is shown in Table 3.

TABLE 3

ISH   2x5   ANOVA

SOURCE OF VARIATION	SUM OF SQUARES	df.	VARIANCE ESTIMATE
Promotions	8.820.9	1	$8{,}820.9 = S_r^2$
Pay Grade	26,439.52	4	$6{,}509.88 = S_c^2$
Interaction	2,780.93	4	$695.23 = S_i^2$
Within	61,213.11	80	$765.16 = S_w^2$
Total	99, 254.46	89	

F_i = Less than Unity

F_r = 11.53   1/80 df. $p < .05$

F_c = 8.51   4/80 df. $p < .05$

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The analysis yielded the following results:

a. Persons promoted earlier had higher ISH scores than those promoted later.

b. ISH scores increased with rank.

c. There is no interaction between promotion time and rank.

EBA

The analysis of variance is shown in Table 4.

TABLE 4

EBA   2x5   ANOVA

SOURCE OF VARIATION	SUM OF SQUARES	df.	VARIANCE ESTIMATE
Promotions	677.88	1	$677.88 = S_r^2$
Pay Grade	854.82	4	$213.71 = S_c^2$
Interaction	1,945.1	4	$486.28 = S_i^2$
Within	18,423.11	80	$230.29 = S_w^2$
Total	21,900.91	89	

F_i = 2.11 Greater than Unity NS

F_r = 2.94 1/80 df $p < .05$

F_c = 0.93 4/80 df NS

The analysis yielded the following results:

a. Persons promoted earlier had higher EBA scores than those promoted later.

b. EBA scores did not increase significantly with rank.

c. There is a non-significant interaction between promotion time and pay grade.

This interaction is presented in Figure 2. As was found for the BABO test, a transition in attitudes apparently occurs to individuals at the E7 grade level. The E7s who had been promoted earlier again displayed less "humanistic" attitudes than the persons promoted later.
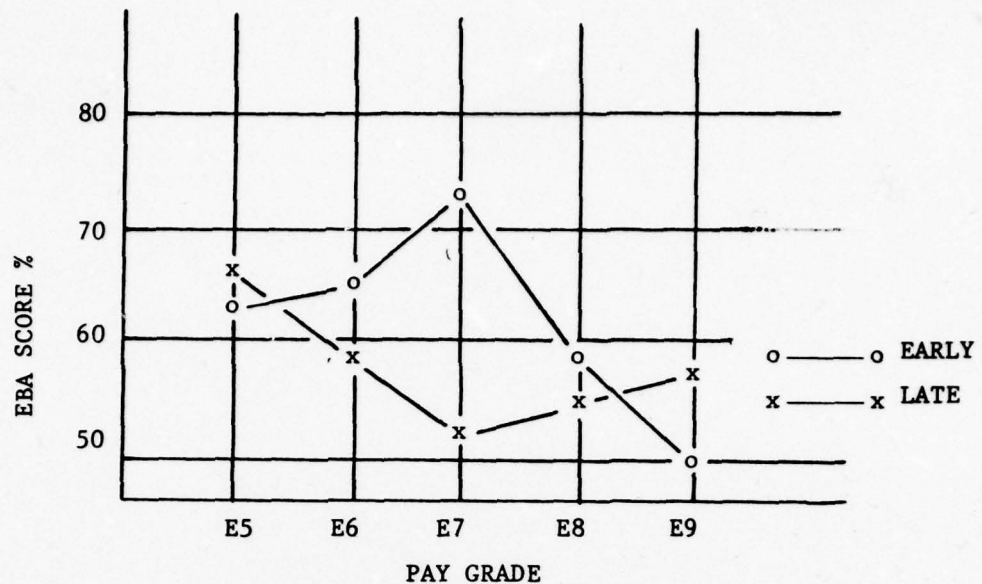
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Figure 2: Average EBA Scores for Each Pay
Grade for Early and Late Promotions

Although the results of this analysis supported the hypothesis that the NCO promoted earlier would score higher on the tests, the finding of interactions between promotion time and pay grade were unexpected and provocative. These results suggest that during the early years of an NCO's career, promotion is adversely affected by humanistic attitudes. The present research provides no direct support either for or against this hypothesis.

COMPARISON OF THE TWO TRYOUTS

Problem

Because of the divergence of the results obtained in the two tryouts of the test battery, analyses were conducted to determine if the two samples were comparable. This evaluation involved a comparison of demographic information, as well as a comparison of the test scores of the two groups.

Essentially all of the E8s and E9s in the original tryout were provided by the USASMA. In contrast, only two of the persons tested in the second tryout had attended the Academy. An examination of the career fields to which the examinees were assigned indicated that a majority of the higher pay grade personnel held air defense MOSs, whereas the first sample contained representatives from a variety of the combat arms and service units.

The average test scores for the two samples are presented in Table 5. Inspection of these data indicated that the two samples were comparable in terms of their average test scores. Because of the apparent equivalence of the two sets of average score, additional analyses were not performed to evaluate statistical differences.

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TABLE 5

TEST MEAN SCORES BY RANK FOR
DEC. DATA VS MAY DATA

	E5	E6	E7	E8	E9	All Ranks
Dec. RC (%)	60	60	68	68	67	64
May RC (%)	57	66	66	67	65	64
Dec. ISH (%)	69.00	75.75	83.11	87.33	84.00	79.87
May ISH (%)	73.29	85.10	83.91	85.99	86.33	83.05
Dec. BABO (Orig.)(%)	54	72	65	82	88	72
May BABO (Orig.) (%)	61	67	59	62	72	64
Dec. BABO (NCO) (%)	67	82	76	85	90	80
May BABO (NCO) (%)	65	73	70	78	85	74
Dec. EBA (%)	50.38	48.75	51.50	49.33	45.82	49.04
May EBA (%)	57.89	48.63	50.78	51.66	47.70	51.30

General Results

An evaluation of the results of the two tryouts of the experimental test battery indicated that the BABO and ISH, and possibly the EBA tests possess sufficient validity that prediction of NCOs' leadership and personnel management skills may be feasible.

The tryout results indicate that the BABO and ISH tests were candidates for further test development efforts. The EBA test also was a potential candidate, although its validity was only evidenced in one of the tryouts.

The other component of the original test battery, MAPS and RC, were eliminated from future test development efforts. The content of these tests apparently was not related to variations in the leadership skills of NCOs.

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FIELD VALIDATION

A field validation of the revised test instruments was conducted during March, April, and May of 1978. This validation was conducted at Forts Stewart, Carson, Lewis, and Campbell. Each installation was asked to administer 125 test batteries to equal groups of NCOs ranking from E5 through E9. Each test booklet was accompanied by a supervisor's rating booklet to be completed by the NCO's immediate supervisor.

A total of 424 test booklets were returned. This is a return of 85%. Seventy-three of the returned test booklets had missing data and were not usable, leaving 351 tests, or 70% of the tests administered for analysis. The distribution of the returned tests by installation and pay grade is shown in Table 6.

TABLE 6

Distribution of Completed Tests
by Pay Grade

INSTALLATION	PAY GRADE				
	E5	E6	E7	E8	E9
Fort Campbell	18	21	23	20	16
Fort Carson	15	18	24	12	3
Fort Lewis	22	21	22	17	21
Fort Stewart	15	16	17	16	14
Total	70	76	86	65	54
% Total	20	22	25	18	15

The test booklet administered in the field evaluation consisted of four parts (see Appendix B). Part one was the Beliefs about Behavioral Operations Test, BABO; Part two was the Effects of Behavioral Actions Test, EBA; Part three was the Implementing Skills and Habits Test, ISH; and Part four consisted of demographic and personal information on each test respondent. There were 14 data items in this part of the test booklet. They were:

- Pay grade
- Months in present grade
- Months in previous grade
- Years in the Army

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- Maximum rank in MOS
- Do you plan to retire?
- Age (in years) at induction
- Army service breaks (months spent out of service)
- Number of leadership courses attended
- Sources of leadership skills
- Education level at induction
- Present education level
- Increase in education level
- Number of degrees obtained.

Each of the 351 respondents was rated by their supervisors in a supervisor's rating booklet. Each incumbent was rated on sixteen factors, each having four levels (see Appendix C).

TEST SCORING

BABO

BABO items were scored against a correct response key and recorded as total and percent correct. The BABO key is shown in Table 7.

TABLE 7

ITEM	CORRECT RESPONSE	ITEM	CORRECT RESPONSE
1	a	7	d
2	c	8	d
3	e	9	b
4	a	10	c
5	e	11	e
6	c	12	e

EBA

EBA items were also scored using a key of best responses. EBA items were assigned the values 1-4 corresponding to the responses Very Few-Very Many. Three scores were obtained for EBA; total and per cent correct, and a deviation score. The deviation score was calculated by subtracting the sum of the individual response deviations from the key from 80. The EBA key is shown in Table 8.

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TABLE 8
EBA CORRECT RESPONSE KEY

ITEM	STORY				
	1	2	3	4	5
1	2	4	2	3	4
2	1	4	2	3	4
3	2	3	1	3	4
4	2	2	2	2	3
5	2	2	3	2	1
6	2	2	3	2	1
7	2	3	3	2	1

ISH

ISH items were assigned the values 0-4 corresponding to the five levels:
Never, Not Very Often, Often, Very Often, and Always. The ISH test was composed of three sections: Supervisory Skills, Training Skills, and Counseling Skills. A total and percent total score was calculated for each section and a total ISH score was obtained by averaging the three section scores.

NCO SCORE

A total NCO score was obtained by averaging the scores of the three tests in the battery.

SUPERVISOR RATING SCORE

The supervisor's rating booklet contained 16 sections, each containing four levels of response. The levels were assigned weights of 10, 8, 6, and 4. The maximum score on the supervisor's rating was 160.

ANALYSIS OF THE FIELD VALIDATION DATA

Multiple linear regression analysis was performed on the validation data (Veldman, 1967). This analysis was performed on each of the five pay grades, E5 through E9. For this analysis, there were three predictor variables each having one or more statistical replications. These variables were:

- BABO percent
- EBA percent
- Each of the three ISH subscores expressed as percent.

In addition to this set of variables, there was an NCO average derived from the total battery expressed as a percent. The predictor vector consisted of ten variables (scores and replications) and the observed Ys for the analyses were supervisor rating scores, time in previous grade in months, and time in previous grade expressed as a score. A summary of the analyses is shown in Table 9.

TABLE 9

OVERALL CORRELATION

	BABO	EBA	ISH Supervisory	ISH Training	ISH Counseling
EBA	.119				
Supervisory	.057	-.066			
Training	.174	.080	.544		
Counseling	.102	.008	.590	.520	
Supervisor Rating	.201	.017	.197	.140	.171
Z-Score Previous Grade	.003	.044	.010	-.048	.0406

The intercorrelation analysis for the 351 respondents showed that the test battery accounted for eight percent of the variance in predicting supervisors' scores. ($F = 7.271$ for 4 and 346 degrees of freedom.) Mean supervisors' ratings and the error of the mean are shown in Table 10.

TABLE 10

RANK	$\bar{x}$	$\sigma\bar{x}$
E9	152.3	1.48
E8	150.4	1.30
E7	147.3	1.50
E6	145.9	1.75
E5	137.7	2.01

Supervisors' ratings monotonically increase with rank and the variance monotonically decreases with rank. This is generally reflected in the means of the selection instrument subtests as shown in Table 11, and supported by the intercorrelation analysis.

TABLE 11

NCO SELECTION INSTRUMENT SUBTESTS   PERCENT CORRECT

		BABO	EBA	ISH Supervisory	ISH Training	ISH Counseling
E9	$\bar{x}$	64.3	58.2	74.7	83.9	88.4
	$\sigma\bar{x}$	1.87	0.92	1.55	2.10	1.45
E8	$\bar{x}$	63.8	57.5	73.5	81.1	82.7
	$\sigma\bar{x}$	1.91	0.90	1.30	1.86	1.63
E7	$\bar{x}$	60.4	57.5	74.0	80.3	83.1
	$\sigma\bar{x}$	1.42	0.65	1.20	1.91	1.42
E6	$\bar{x}$	59.8	56.1	73.2	80.5	82.9
	$\sigma\bar{x}$	1.58	0.88	1.48	1.87	1.78
E5	$\bar{x}$	57.9	56.9	70.9	79.2	80.8
	$\sigma\bar{x}$	2.00	0.77	1.48	1.96	1.79

This situation led to the statement of the early promotion hypothesis.

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VALIDATION TEST OF THE EARLY PROMOTION HYPOTHESIS

As before, analysis was conducted on the relationship between test performance and months in grade between the person's last promotion for BABO, ISH, and EBA.

RESULTS

BABO

The analysis of variance is shown in Table 12.

TABLE 12

BABO VALIDATION   2x5 ANOVA

SOURCE OF VARIATION	SUM OF SQUARES	df	VARIANCE ESTIMATE
Promotions	610.74	1	$610.74 = S_r^2$
Pay Grade	13,741.33	4	$3435.33 = S_c^2$
Interaction	6,621.61	4	$1655.40 = S_i^2$
Within	73,820.18	341	$216.48 = S_w^2$
Total	94,793.86	350	

$$F_i = 7.65 \quad df\ 4/341 \quad p < .05$$
$$F_r = 2.82 \quad df\ 1/341 \quad NS$$
$$F_c = 15.87 \quad df\ 4/341 \quad p < .05$$

The analysis yielded the following results:

a. The overall differences in BABO scores for early vs. late promotions was not significant.

b. The average scores increased as a function of rank.

c. The interaction between promotion time and pay grade was statistically significant.

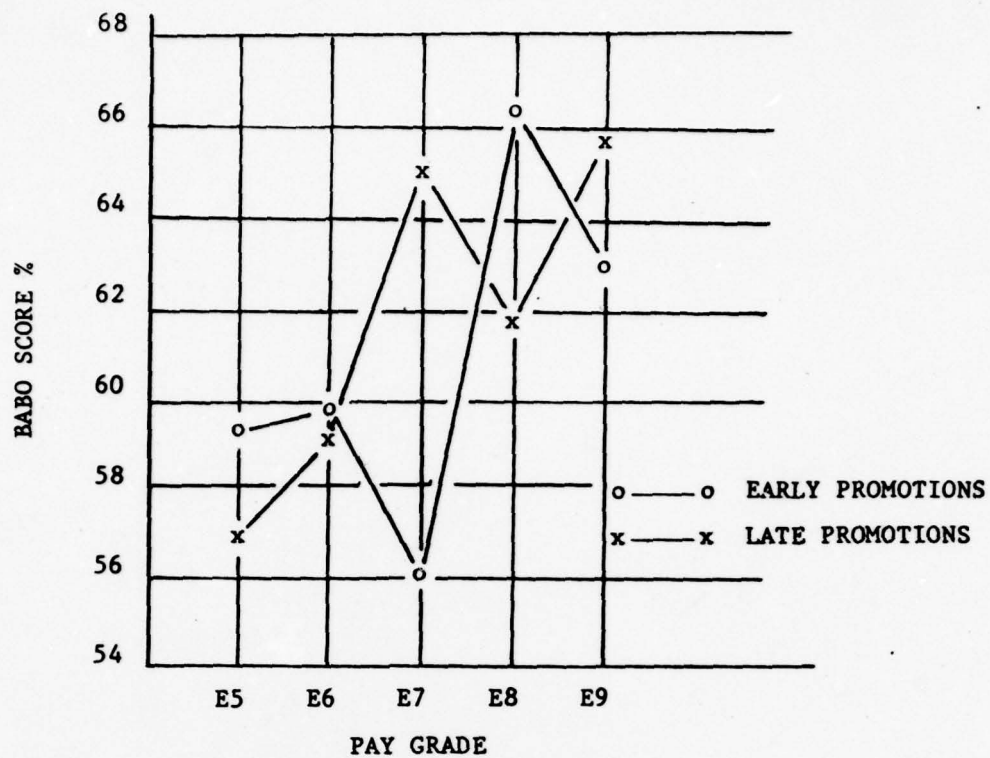The means for these scores are plotted in Figure 3.

Figure 3

ISH

The analysis of variance is shown in Table 13.

TABLE 13

ISH VALIDATION 2x5 ANOVA

SOURCE OF VARIATION	SUM OF SQUARES	df	VARIANCE ESTIMATE
Promotions	5.58	1	$5.58 = S_r^2$
Pay Grade	1142.60	4	$285.65 = S_c^2$
Interaction	319.16	4	$78.79 = S_i^2$
Within	43,539.75	341	$127.68 = S_w^2$
Total	45,007.09	350	

F_i = Less than Unity

F_r = NS

F_c = NS

23

The analysis showed no interaction between promotion and pay grade; no significant differences between early and late promotion and no significant increase in ISH score with rank. The means are plotted in Figure 4.

Figure 4

EBA

The analysis of variance is shown in Table 19.

TABLE 14

EBA VALIDATION 2x5 ANOVA

SOURCE OF VARIATION	SUM OF SQUARES	df	VARIANCE ESTIMATE
Promotions	85.27	1	$85.27 = S_r^2$
Pay Grade	360.45	4	$50.11 = S_c^2$
Interaction	132.98	4	$33.25 = S_i^2$
Within	37,827.82	341	$110.93 = S_w^2$
Total	38,406.52	350	

F_i = Less than Unity

F_r = NS

F_c = NS

24

The analysis resulted in no interaction; no significant differences between early and late promotions and no significant increase in EBA score with rank. The means are plotted in Figure 5.
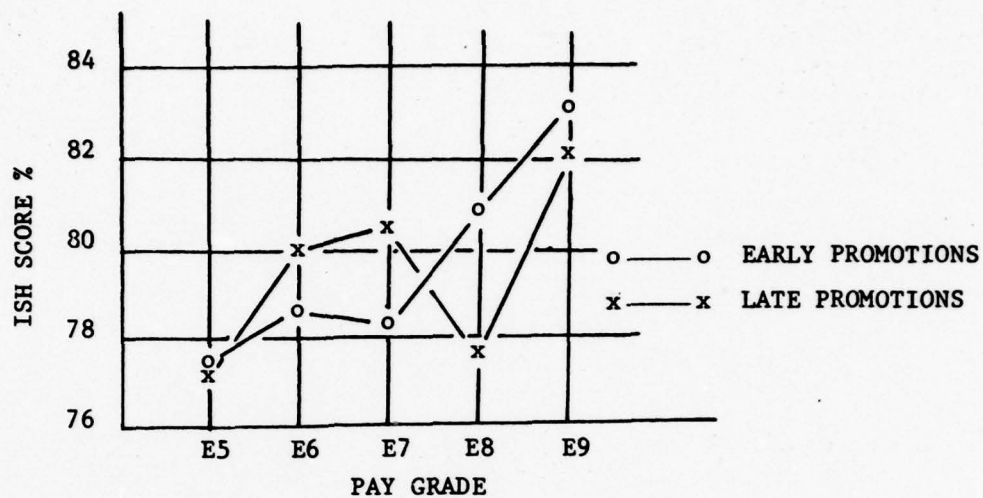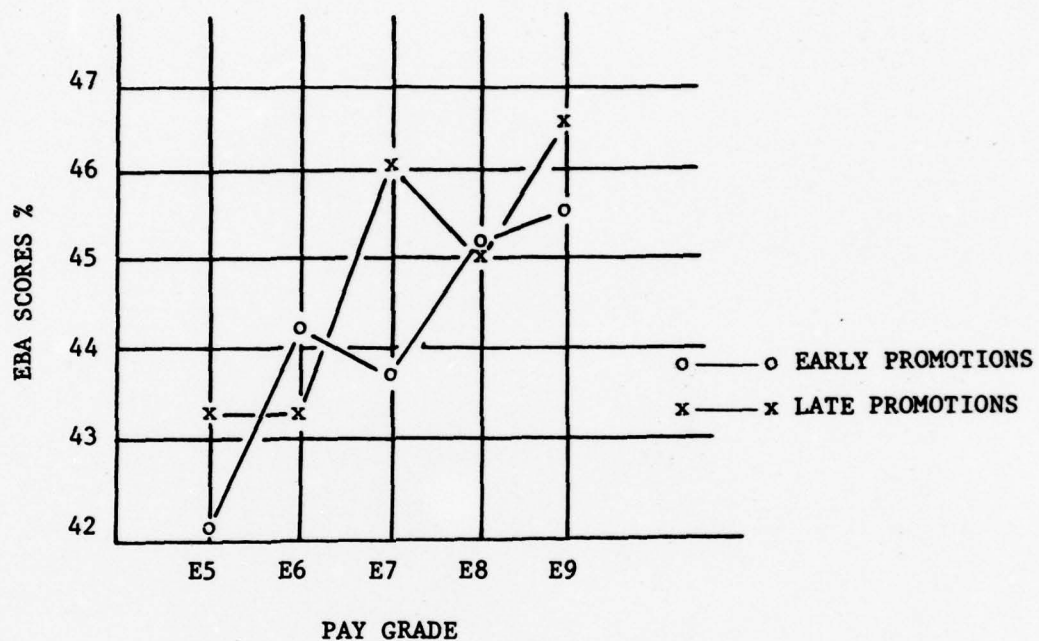

PAY GRADE

Figure 5

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SUMMARY AND CONCLUSIONS

SUMMARY

In Task 1, the statistical analysis resulted in a refinement of the items for the BABO, ISH, EBA, MAPS and RC tests. The main revision was a reduction in the number of items in each instrument. Following the revision a second tryout was carried out to evaluate the revised instruments.

The second tryout was characterized by generally low intercorrelations, low reliability scores, and little or no predictive power. This outcome was somewhat unexpected and an examination of the two tryout samples revealed no particular reason for the difference in results.

However, as a result of the findings it was determined that the MAPS and RC tests could be dropped from the battery of tests since they made no appreciable contribution. The remaining tests were used in a field validation study.

Multiple linear regression analyses were performed on each of five pay grades, E5 through E9. The three predictor variables were BABO percent, EBA percent, and each of three ISH subscores expressed as percent. Also, there was an NCO average derived from the total battery expressed as a percent. The predictor consisted of supervisor rating scores, time in previous grade in months and time in previous grade expressed as a Z score.

For the BABO test the mean scores increased as a function of rank, and the interaction between promotion time and pay grade was significant. No other interactions for BABO were significant. Neither ISH or EBA had any significant interactions.

Thus, it is clear from the findings that the early promotion hypothesis was not supported by the findings of the validation study. Of all the instruments, BABO appeared to consistently yield the most usable information. However, in the general case, none of the instruments provided the predictive capability which was sought at the inception of this study.

Reexamination of the activities of this study do not reveal any obvious design or procedure errors which might account for nonsignificant findings.

Reexamination of the stewardship of this study discloses that the study was closely associated with the thinking and insight of the original investigator. The leaving of that person, followed by the untimely death of his successor, may have contributed to a null outcome for the study. It is unlikely that this three-time change in project investigator could have reversed or diverted strongly positive relationships amount the variables studied. It could only have lessened our ability to tease out subtle relationships that might have been obvious to the conceptual author of the study.

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CONCLUSIONS

Given the conditions of the present study and the data generated therein, it is concluded that there is no predictive relationship between the variables studied and the quality of performance.

This area is fraught with more difficulties and technical complexities than originally assumed. Subsequent researchers should find that a review of the assumptions, procedures, and findings of this study will make a meaningful contribution to their attempts to develop similar instruments.

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REFERENCES

Veldman, Donald J. *Fortran Programming for the Behavioral
        Sciences*. 1967. New York, NY: Holt, Rinehart &
        Winston.

Kuder-Richardson, *Fundamental Statistics in Psychology and
        Education*. J.P. Guilford, McGraw Hill, 1956, pp.
        454-456

APPENDIX A

TABLE A-1

BABO POINT BISERIAL ANALYSIS FOR CORRECT RESPONSES
VS. TOTAL FOR DEC. & MAY DATA (BOTH KEYS) FOR ALL RANKS

Old Item Number	Dec. Data NCO Key	Dec. Data Orig. Key	New Number	May Data NCO Key	May Data Orig. Key
1	.126	.063			
2	.227	.169	1	.062	.163
3	.184	.176			
4	.188	.014			
*5	.398	.654	2	.354	.355
6	.045	.186			
7	.457	.410	3	.397	.402
*8	.368	.487	4	.383	.210
9	.350	.318	5	.248	.312
10	.189	.045			
*11	.153	.168			
12	-.116	.083			
13	-.034	.185	6	.619	.306
14	.011	.109			
15	.255	.104			
16	.052	.279			
17	.252	.314	7	.598	.678
18	.061	.447	8	.194	.424
19	.031	.225	9	.528	.137
20	.356	.227			
21	.174	.197			
22	.224	.307	10	.256	.388
23	.045	.287			
24	.094	.098			
*25	.273	.511	11	.217	.212
26	.108	.289	12	.270	.364
27	.530	.439	13	.304	.196
28	.195	.135	14	.202	.263
29	.300	.257			
*30	.374	.456	15	.569	.473

*items identified by discriminate analysis

TABLE A-2

POINT BISERIAL ANALYSIS OF
MAY ISH DATA

75% & 100% RESPONSES VS TOTALS
(6 subjects thrown out of data)

$N_t = 44$ $\qquad$ $M_t = 212.66$ $\qquad$ $\sigma_t = 20.19$

ITEM Supervisory		ITEM Training		ITEM Counseling	
1	.337	18	.429	44	.253
2	.065	19	.214	45	.460
3	.268	20	.324	46	.359
4	.332	21	.308	47	.313
5	.231	22	0	48	.300
6	.199	23	.395	49	.122
7	-.071	24	.254	50	.330
8	.473	25	.587	51	.180
9	.527	26	.357	52	.0
10	.401	27	.179	53	0
11	.300	28	.179	54	.208
12	.222	29	.395	55	-.094
13	.162	30	.151	56	0
14	.541	31	.311	57	0
15	.360	32	.263	58	.272
16	.100	33	.396	59	.437
17	.460	34	.192	60	.286
		35	.289	61	.276
		36	.019	62	.413
		37	.224	63	.458
		38	.328	64	.161
		39	.081		
		40	.288		
		41	.175		
		42	.019		
		43	.089		

APPENDIX B

ORIENTATION

The question booklet in front of you is part of a research project
being conducted by the Human Resources Research Organization as part
of a contract with the U.S. Army Research Institute for the Behavioral
and Social Sciences. The project is sponsored by the U.S. Army Ser-
geants Major Academy.

The objective of the project is to identify personnel management and
leadership skills required of NCOs and to develop ways of evaluating
these skills. If fully successful, the final results of the project
may show up in the Enlisted Personnel Management System at some time
in the future. You might someday see questions like these in an Army
examination or you might see lessons in an NCO training program dealing
with these kinds of skills. Or you may never see anything like it again.
Right now, what we are doing is strictly experimental.

There are three parts to this survey. Let's look over all of them before
you start working on them. Part One of the survey is WHAT WOULD YOU SAY?
It presents a number of very short stories about real life Army situations
and a list of things someone might say if he were there. For each story,
you are to pick the statement that comes closest to what you would say if
you were there.

The second part is called WHAT WILL HAPPEN? It presents a number of very
short stories about real life Army situations and a list of things that
the people in the story might do as a result of what happened. You are to
indicate how many people are likely to do each of the things in the list.

The third part is called WHAT DO YOU SAY YOU DO? It's made up of short
items describing administrative, supervisory, and counseling actions. You
are to mark how often you do each one.

There is also a personal information sheet for you to fill out. We want
to know things like how long you've been in the Army, your rank, your
education, and things like that.

Each of the surveys in your stack has a common code number on it. That
number is different from everyone else's number. This is how we will know
which booklets go together.

When you have finished all the booklets and the personal information sheet,
you can leave.

<u>BABO</u>

WHAT WOULD YOU SAY?

<u>Instructions</u>

There are 12 very short stories in this booklet.

Each story describes something that could happen in the Army.

After each story, there is a list of 4 or 5 things someone might say
about the story.

Pick the statement from the list that comes closest to saying what you
might say to someone else (or to yourself) about what happened in the
story if you were there.

Pick only <u>one</u> statement.

Make a mark in the blank next to the statement you pick.

There are no right or wrong answers. We want to know what you think
is right.

There is no time limit. Pick only one statement for each story. Do
all of the stories.

1. SFC Vinson is soon going to retire after 20 years in the Army. He has a G.E.D., but no hard skills he can sell to a civilian employer. He knows that his retirement pay will <u>not</u> be enough for his family to live on. He has made no job or training plans. He feels very nervous about retiring.

    WHAT WOULD YOU SAY?

_____a. The sooner he makes some good plans, the sooner he'll feel better.

_____b. Soldiers should get enough retirement pay so that they don't have to work.

_____c. He needs to make sure that he doesn't get into the wrong kind of job or he'll be miserable for the rest of his life.

_____d. He should have thought about this years ago and gotten some training that would help him in civilian life while in the Army.

2. E-5 Shenk is about to go before the promotion board. He is afraid that he won't do well. He knows his job, but has never been very good at speaking in front of others. He is afraid he will freeze up and make a fool out of himself. He is unable to do his work because of worrying about this problem.

    WHAT WOULD YOU SAY?

_____a. It's natural for people to worry about things they are afraid of. But it won't be long before Shenk will be his old self again.

_____b. If he's a professional soldier, he should do his job well no matter what the conditions.

_____c. He should ask a friend to help him practice for his appearance before the promotion board.

_____d. Those promotion boards are useless. There must be a better way.

3. A brand new E-6 asks you for advice on how to motivate the troops.

   WHAT WOULD YOU SAY?

   _____a. Since we can't reward troops with extra money, the only way we can motivate them is by fear.

   _____b. When they're good reward them. When they're bad, punish them.

   _____c. Correct their mistakes. Tell them what they do well. Punish them if you have to, but not too often.

   _____d. When you first take over a group, be firm with them and set very high standards. You can let up later, once they are working hard for you.

   _____e. Involve them in planning and decisions. Several heads are better then one.

4. SGT Dulvey has just gotten orders for Greenland. He has heard there isn't a worse place to spend a year.

   WHAT WOULD YOU SAY?

   _____a. If a person really tries, he can probably be happy and useful almost any place.

   _____b. That is terrible; you'll go stir crazy.

   _____c. Pull strings. Get your orders changed.

   _____d. Just ride it out. You may be miserable, but there is not much else you can do.

5. As an E-5, you had applied for the Marine Engineering School and were accepted. Then DA said that since you are in a critical combat MOS, you can't go to the school.

   WHAT WOULD YOU SAY?

   _____a. The Army doesn't really care about it's people.

   _____b. Well, that's that. I guess I'm stuck here.

   _____c. I'm getting out of the Army as soon as possible.

   _____d. I was accepted. And that's something to be proud of even if I can't go.

   _____e. I'll look for another school that I _can_ go to with my MOS.

6. Two young PFCs in your section were caught smoking pot during a field exercise.

      WHAT WOULD YOU SAY?

_____ a.   I hope they nail their hides to the wall!

_____ b.   No matter what we do, they manage to get hold of this stuff. We need tougher shakedowns and some informers.

_____ c.   Let's try some program to cut down on the use of drugs in the unit.

_____ d.   I've done everything I can to warn them about the dangers of drugs, but they don't listen.

_____ e.   We will have to make an example of them to discourage others from doing this.

7. You are watching a staff sergeant drilling his men in the hot summer sun. He shouts at them and is very harsh with them when they make a mistake.

      WHAT WOULD YOU SAY?

_____ a.   Firm treatment builds a soldier's character.

_____ b.   It is better to reward good performances than to punish poor performance.

_____ c.   Troops learn faster under pressure.

_____ d.   Stress during training prepares soldiers for the stress of combat.

_____ e.   If it isn't too hot for him, it shouldn't be too hot for them.

8. PSG Henry has been giving his men close order drill for two hours everyday since he heard there was to be a parade in two weeks. He wants his platoon to look better than anyone else's. He told you he won't settle for less than perfection.

      WHAT WOULD YOU SAY?

_____ a.   Right! If a thing is worth doing, it is worth doing well.

_____ b.   If your platoon is the best in the parade, the pride will make your men better soldiers.

_____ c.   You're pushing too hard. You do as well as you reasonably can and then let the chips fall where they may.

_____ d.   The experience of working hard for a common goal will build the men's morale.

_____ e.   He should be spending the training time on something more important than close order drill.

9. Several men are painting poles in their barracks area. It's obvious that they are bored and working very slowly. The NCOIC says to you, "I don't know how to get them to paint faster. There are still a lot of poles we have to paint today."

WHAT WOULD YOU SAY?

_____ a. Stay on top of them without let up until the job is done.

_____ b. Tell them they can have the rest of the day off when they are done.

_____ c. Set a deadline and tell them what punishment they will get for not meeting it.

_____ d. Make them stay into the evening until they finish the job.

10. PSG Willis says the men in his platoon are always complaining about every little thing that happens.

WHAT WOULD YOU SAY?

_____ a. It's natural for troops to complain. That means that things are normal. When they stop complaining, watch out.

_____ b. Maybe you should work them harder so that they will have something real to complain about.

_____ c. Sometimes it helps to have a rap session with your troops. It will help you find out what the real problems are.

_____ d. Get them involved in more activities. Have them compete with other units. They're probably bored.

11. SGT Franks is having a very serious personal problem. It is affecting his job and his relationship with other men in the unit. He has bursts of temper over little things, rarely smiles, and seems to do a lot of shouting. He has not confided in anyone, not even his best friend.

WHAT WOULD YOU SAY?

_____ a. It's not my problem.

_____ b. It's only natural for people to be difficult to get along with when they have a problem. But a strong person will usually work out his own problems. Leave him alone. He'll work it out.

_____ c. He should not be allowed to let his personal problems affect his job. Tell him to shape up or suffer the consequences.

_____ d. He doesn't really want to solve his problem. He just wants attention.

_____ e. His superior should talk to him about his effect on the unit and about getting help for his problems.

12. Two NCOs are talking about a self-paced training program they are
teaching for the first time. One NCO says, "This self-paced training
is more work than it's worth. We have more records to keep and still
don't know where the men are during the day."

The other says, "Not only that ... it messes up everything else in the
unit ... work details, motor stables, and the rest. I'd like to see
us get back to training methods that don't interfere with unit operation."

WHAT WOULD YOU SAY?

_____ a. Training management is more important than training methods.
We had better management with our old training methods.

_____ b. Self-paced training robs the men of their will to learn by getting
rid of competition. Competition is a big part of our way of life.

_____ c. It is important that every man be able to do his job. And that's
why we need to return to the training methods that have always
worked in the past.

_____ d. Self-paced training is spoonfeeding. It keeps men from
developing a sense of responsibility.

_____ e. We now have training methods that work much better than the old
ones. The operation of the unit should center around the training,
not the other way around.

EBA

WHAT WILL HAPPEN?

<u>Instructions</u>

There are 5 very short stories in this booklet.

Each story describes the way in which a particular NCO treats his men.

After each story, there is a list of 7 things which the men might do
as a result of the way their NCO treats them.

Pick the number of men (VERY FEW, FEW, MANY, or VERY MANY) who are likely
to do the things described in each statement.

Make a mark in the column of blanks which fits your choice.

Respond to every statement after each story.

There is no time limit.

STORY ONE

PSG Blair started having GI parties to prepare for an IG inspection
two weeks before the inspection was due. Each night he would come into
the barracks at 6 PM and get the men together for a lecture. He would
warn them to get with it and get the place cleaned up to his standards
or they would find out just how rough he could be. He would carry on
this way for at least 15 minutes. Once they started, he would leave
and go home to his family.

After a week of this, he called them together to say that they had not
done a good enough job and that they had let him down. Now they would
see that he wasn't kidding when he said he could be rough.

As a result of the way PSG Blair treats his men,

WHAT WILL HAPPEN?

How many are likely to do each of the following:

VERY FEW	FEW	MANY	VERY MANY		
___	___	___	___	a.	...men will do what PSG Blair tells them to do and do it well.
___	___	___	___	b.	... men will work on their own time to improve their own job skills, will help each other to improve, and will work together with good feelings for each other.
___	___	___	___	c.	...men will set high standards for their own performance on the job.
___	___	___	___	d.	...men will say they want to make the Army their career.
___	___	___	___	e.	... men will try to get out of the Army as quickly as possible.
___	___	___	___	f.	...men will "bug out" when no one is watching, work slowly or poorly, or be late or sick often.
___	___	___	___	g.	...men will steer clear of PSG Blair whenever possible.

STORY TWO

SGT Davis is a DI. He is a very competent soldier in all basic combat skills. He wants every recruit to become a good soldier who can take care of himself in combat. When a man makes a mistake in training, Davis swoops down on him and shouts at him. He might say, "Soldier, that's wrong! This is the way you do it." Then he'll show him how to do it. And then he'll make the recruit do it two or three times without any mistakes. He'll shout, "Let me see you do it right. No mistakes!"

He moves from one recruit to another in this way -- shouting when he sees a mistake, demonstrating the task or leading the man through the task, and making each man do the task over and over again until he does it right.

When recruits are late, or lag behind during PT, or talk when they are not supposed to, or play in ranks, Davis comes down hard on the offender with the harshest quick punishment he can use.

As a result of the way SGT Davis treats his men,

WHAT WILL HAPPEN?

How many men are likely to do each of the following:

VERY FEW	FEW	MANY	VERY MANY	
___	___	___	___	a. ...men will master their job skills and tasks.
___	___	___	___	b. ...men will work hard, pay attention, and not misbehave in class.
___	___	___	___	c. ...men will set high standards for their own performance on the job.
___	___	___	___	d. ...men will say they want to make the Army their career.
___	___	___	___	e. ...men will try to get out of the Army as quickly as possible.
___	___	___	___	f. ...men will "bug out" when no one is watching, work slowly or poorly, or be late or sick often
___	___	___	___	g. ...men will steer clear of SGT Davis whenever possible.

STORY THREE

SGT Raney is a platoon sergeant in an infantry company. During training classes and exercises, he severely punishes those men who do not learn as quickly or as well as others. If a man scores less than 65% on a test, Raney finds some extra details for him or gives him some really dirty details to do. He refers to them as "Raney's Runts" because of their "small brains".

Raney holds tight to the training schedule, no matter how well or how poorly the men are doing. As long as a man makes at least 65%, he has nothing to worry about.

Raney points out to the classes that at least 10% of the men have averages over 90%. If these men can learn, then so can the rest if they just make the effort. He and the other NCOs don't have time to "baby them along and spoonfeed them."

However, he does demonstrate the "right way" to do each task whenever he can. He is a skilled performer and does these demonstrations quickly and well.

When Raney watches a student perform a task, he points out every error as it happens, but without stopping the student.

As a result of the way SGT Raney treats his men,

WHAT WILL HAPPEN?

How many men are likely to do each of the following:

VERY FEW	FEW	MANY	VERY MANY	
____	____	____	____	a. ...men will master their job skills and tasks.
____	____	____	____	b. ...men will work hard, pay attention, and not misbehave in class.
____	____	____	____	c. ...men will set high standards for their own performance on the job.
____	____	____	____	d. ...men will say they want to make the Army their career.
____	____	____	____	e. ..men will try to get out of the Army as quickly as possible.
____	____	____	____	f. ...men will "bug out" when no one is watching, work slowly or poorly, or be late or sick often.
____	____	____	____	g. ...men will steer clear of SGT Raney whenever possible.

STORY FOUR

PSG Oates and PSG Wade are rivals. For two years PGS Wade's platoon has scored higher on the MOS proficiency tests than PSG Oate's platoon. Wade has kept rubbing it in.

This year Oates bet Wade that this time his platoon would win. He told his men about his bet and got them all worked up about it. He has given them twice the amount of refresher training than he ever has in the past. Oate's men have worked hard, put in their own time, and helped each other for months.

They took the tests and the results are back. Oates and Wade got together and figured out their platoon averages. Oate's platoon did much better than it had ever done before. But it still lost again to Wade's platoon.

As a result of the outcome,

WHAT WILL HAPPEN TO THE MEN IN OATE'S PLATOON (THE LOSERS)?

How many are likely to do each of the following:

VERY FEW	FEW	MANY	VERY MANY	
___	___	___	___	a. ...men will do what SGT Oates tells them to do and do it well.
___	___	___	___	b. ...men will work on their own time to improve their own job skills, will help each other to improve, and will work together with good feelings for each other.
___	___	___	___	c. ... men will set high standards for their own performance on the job.
___	___	___	___	d. ...men will say they want to make the Army their career.
___	___	___	___	e. ...men will try to get out of the Army as quickly as possible.
___	___	___	___	f. ...men will "bug out" when no one is watching, work slowly or poorly, or be late or sick often.
___	___	___	___	g. ...men will steer clear of SGT Oates whenever possible.

STORY FIVE

SGT Wilkins is a platoon sergeant in an artillery battery. He frequently instructs new men in artillery observer skills. He requires each man to master one skill at a time before starting to learn a new skill. During practice, he notices even the smallest improvements in a favorable way.

Wilkins observes each recruit in turn during practice, encouraging them to practice and correct their mistakes. He allows each man as much time as he needs to learn each skill. He does not pressure them to hurry.

He allows quiet talking among his students. But he comes down hard and fast on any student who disturbs others in the class.

He holds each man strictly to the performance standards set for each skill and each task. Every man must meet the standard for each test before moving on. He praises every man who passes, pointing out the specific strong points in his performance.

As a result of the way SGT Wilkins treats his men,

WHAT WILL HAPPEN?

How many men are likely to do each of the following:

VERY FEW	FEW	MANY	VERY MANY	
____	____	____	____	a. ...men will master their job skills and tasks.
____	____	____	____	b. ...men will work hard, pay attention, and not misbehave in class.
____	____	____	____	c. ...men will set high standards for their own performance on the job.
____	____	____	____	d. ...men will say they want to make the Army their career.
____	____	____	____	e. ...men will try to get out of the Army as quickly as possible.
____	____	____	____	f. ...men will "bug out" when no one is watching, work slowly or poorly, or be late or sick often.
____	____	____	____	g. ...men will steer clear of SGT Wilkins whenever possible.

SKILL INVENTORY: SELF RATING

These are actions which you may do to varying degrees on the job.

These actions are grouped into three areas:

      1.   SUPERVISORY SKILLS
      2.   TRAINING SKILLS
      3.   COUNSELING SKILLS

To the left of each action are five blanks. These blanks are labeled:

      Always 100%
      Very Often 75%
      Often 50%
      Not Very Often 25%
      Never 00%

Make a mark on the blank by each action which tells how often you do that action compared to the opportunities you have for doing it.

Mark only one blank for each action.

Respond to every action. If you are not sure how often you do an action, make the best guess you can.

SUPERVISORY SKILLS

	Very Often 75%	Often 50%	Not Very Often 25%	Never 00%	
Always 100%					

Anticipating Job Demands

1. ____ ____ ____ ____ ____ I usually know what's happening and what's going to happen by talking with my superiors and other NCOs about unit operations and plans.

____ ____ ____ ____ ____ I am successful in getting things I need to meet plans.

Giving Instructions

3. ____ ____ ____ ____ ____ When I give assignments, I match my subordinates' skills to the task.

Managing On-Going Work

____ ____ ____ ____ ____ I feel I have to watch every task my subordinates do.

____ ____ ____ ____ ____ I use a system for keeping tabs on the work of my subordinates.

____ ____ ____ ____ ____ When a subordinate does good work, I tell him so by praising him, thanking him, or even giving him time off.

____ ____ ____ ____ ____ I correct any conditions at work that interfere with my subordinates' getting the job done—like room too hot, too much talking, or not enough equipment.

Passing On Information

____ ____ ____ ____ ____ I thank my subordinates for timely and accurate reports even if the news is bad.

____ ____ ____ ____ ____ I encourage my subordinates to ask me questions on information I pass on to them.

TRAINING SKILLS

Always 100%	Very Often 75%	Often 50%	Not Very Often 25%	Never 00%	
					Preparing Lessons

Before conducting a class:

	Always 100%	Very Often 75%	Often 50%	Not Very Often 25%	Never 00%	
10.	___	___	___	___	___	I review the performance objectives carefully.
11.	___	___	___	___	___	I learn the reason for each step in the task to be learned.
12.	___	___	___	___	___	I identify steps in the tasks which could lead to injuries to personnel or damage to equipment.
13.	___	___	___	___	___	I show the materials and equipment and explain what tasks or skills are to be learned.
14.	___	___	___	___	___	I watch each man practice each task.
15.	___	___	___	___	___	I make sure each student can do each task correctly before going on to the next task.

Giving Tests

	Always 100%	Very Often 75%	Often 50%	Not Very Often 25%	Never 00%	
16.	___	___	___	___	___	I check out the testing procedures, materials, and equipment beforehand
17.	___	___	___	___	___	I score student performance as GO or NO-GO.
18.	___	___	___	___	___	I give added practice until all student are GO.
19.	___	___	___	___	___	I make sure all the students get enough time to practice each task to learn it correctly.

COUNSELING SKILLS

	Always 100%	Very Often 75%	Often 50%	Not Very Often 25%	Never 00%	
20.	_____	_____	_____	_____	_____	I identify all the people involved in the problem(including myself).
21.	_____	_____	_____	_____	_____	I bring these people together to solv the problem.
22.	_____	_____	_____	_____	_____	I explore the problem with them.
23.	_____	_____	_____	_____	_____	I guide my subordinates in finding solutions that might be used.
24.	_____	_____	_____	_____	_____	I decide if others need to be involve in solving this problem(like the man' wife.)
25.	_____	_____	_____	_____	_____	I guide my subordinate (and others, i involved in selecting a solution for each proble.
26.	_____	_____	_____	_____	_____	I follow up to see that the problem was solved without causing other problems.

NAME_____   SSN_____ UNIT_____

MILITARY EXPERIENCE

1. Draw a circle around your present grade.

    E-5   E-6   E-7   E-8   E-9

2. How many months have you been in your present grade?

    _____months

3. How long were you in your previous grade? For instance, if you are now an E-5, how long were you an E-4 ?

    _____years _____months

4. How long have you been in the Army?

    _____years _____months

5. What is the highest grade a soldier can reach in your present MOS? Circle one.

    E-4   E-5   E-6   E-7   E-8   E-9

6. Do you intend to stay in the Army long enough to retire (20 years) ?

    _____Yes

    _____NO

    _____Probably

7. How old were you when you entered the Army?

    _____YEARS

8. Have there been any breaks in your Army career? Have you dropped out for a while and then enlisted again?

    _____YES

    _____NO

9. If so, how many months have you spent outside of the Army since you first entered it?

    _____Months

10. What is your current MOS?   _____

11. In what other MOS's have you worked?   ___ ___   _____

    _____   _____

    _____   _____

12. What Army training programs have you attended that gave classes on leadership skills?

_____ BASIC NCOES

_____ ADV. NCOES

_____ SGM ACADEMY

_____ OTHER _____

_____ OTHER _____

13. Leadership skills and the ability to work with other people become more important as you rise in rank in the Army. Each NCO develops these skills in the best way that he can. We would like to know how you think you learned the skills needed to work with people.

Below are several ways in which you may have learned your leadership skills. Please put numbers in the blanks next to those that you feel apply to you and number them in order of importance to you.

Put number 1 in the blank next to the item most responsible for your learning leadership skills, number 2 by the next most important item, and so forth.

Please read all the items before you number any of them.

If the important ways that influenced you are not among those listed below, then describe in a few words in the "OTHER" spaces at the bottom.

I LEARNED LEADERSHIP SKILLS:

_____ from seeing the good results of other NCOs working with men.

_____ from seeing the bad results of other NCOs working with men.

_____ by trial and error.

_____ by being taught by people I worked with.

_____ in Basic NCOES.

_____ in Advanced NCOES.

_____ at the Sergeant Majors Academy.

_____ in a "shadow school" -- a special battalion operated school.

_____ from Army correspondence courses. (What course? _____)

_____

_____ from talking about these skills with other NCOs.

_____ from talking about real leadership and discipline problems with other NCOs.

_____ from college courses on interpersonal relations, psychology, personnel management, and so forth.

_____ in a special workshop or encounter group.

_____ OTHER_____

_____ OTHER_____

_____ OTHER_____

_____ OTHER_____

EDUCATION

14. What educational level had you reached before you first entered the Army?

a. 8th grade or less   _____
b. 9th – 12th grade   _____
c. Highschool graduate   _____
                     1st. yr.   2nd yr.   3rd yr.   4th yr.   Graduated
d. Trade School   _____   _____   _____   _____   _____
e. College   _____   _____   _____   _____   _____

15. What was your major subject or area? _____

16. What is your present educational level? Make a check mark in the correct blank.

_____ Grade school only

_____ Some High school

_____ Working on GED

_____ High School graduate (or GED equivalent)

_____ Working in the first two years of college

_____ Working in the last two years of college

___ ___ Have Associate's Degree

_____ Have Bachelor's degree

_____ Working on Master's degree

_____ Have Master's degree

17. If you have done some college work, please name your major area of study or interest.

    _____

18. How far do you plan to continue your education and in what field?

    _____ _____ _____

19. If you have taken college courses, please check the statement that fits you.

    _____ I have taken them mainly because I could use them on my Army job.

    _____ I have taken them mainly to prepare for my retirement from the Army.

    _____ I have taken them mainly because of my personal interest in the area of study.

    _____ I have taken them mainly to keep from getting bored.

    _____ OTHER _____ _____

APPENDIX C

FOR THE FOLLOWING RATINGS, CHECK THE BLOCK FOR EACH

FACTOR WHICH BEST DESCRIBES THIS PERSON.

NCO JOB PERFORMANCE

NCO'S NAME _____

POSITION _____

UNIT _____

FACTOR				
SUBORDINATE RELATIONSHIP	4 Inconsistent in perceiving needs. ___	6 Occasionally forgets subordinates needs but tries to improve. ___	8 Most of the time, recognizes and attends to subordinate's needs. ___	10 Recognition of, and attendance to, subordinates needs all the time. ___
KNOWLEDGE OF THE JOB	10 Knows job thoroughly, rarely in doubt as to what should be done. ___	8 Fairly well informed and recognizes own limitations. ___	6 Overlooks facts, jumps to conclusions. ___	4 Has superficial knowledge of job and needs further training. ___
SKILL IN PERFORMANCE OF PROCEDURES	4 Shows very little skill, needs constant assistance. ___	6 Has limited skill; does not know when to ask for assistance. ___	8 Does job successfully but occasionally needs assistance or instructions. ___	10 Possesses outstanding skill and comprehension. ___
ACCURACY OF WORK	10 Exceptional, rarely makes errors or repeats mistakes. ___	8 Generally accurate, occasionally makes errors but usually avoids repetition ___	5 Often makes errors, tends to repeat errors. ___	4 Consistently makes errors; shows little concern and repeats errors. ___
VOLUME OF WORK PRODUCED	4 Rarely shows more than minimum accomplishment. ___	6 Sometimes inadequate but generally tries to meet minimum requirement. ___	8 Accomplishes more than most others; completes assignments. ___	10 Completes an exceptional volume of work. ___

	10	8	6	4
RESPONSIBILITY	Exceptional, can always be relied upon.	Has satisfactory sense of obligation.	At times shows indifference; not consistently dependable.	Tends to neglect duties: unpredictable
INITIATIVE	Consistently sees what is to be done and does it.	Often goes ahead on own; works well with minimum supervision.	Inclines to take things easy, requires occasional reminding.	Wastes time; rarely looks for work; needs constant supervision.
COOPERATIVENESS	Goes out of way to assist others, promotes harmony.	Works well with others; usually willing to lend a hand.	Fairly cooperative; sometimes creates friction.	Not a good "team worker"; often creates friction.
ATTITUDE TOWARD JOB AND LEARNING	Exhibits eagerness; consistently conscientious.	Is generally conscientious; indicates desire to improve.	Occasionally lacks interest and enthusiasm; sometimes indicates desire to improve.	Is uninterested; indicates little interest to improve.
RECEPTIVENESS TO SUPERVISION	Asks for suggestions accepts and shows improvement.	Usually receptive to suggestion, accepts supervision with understanding.	Sometimes unreceptive becomes upset and tries to justify self.	Resents and rejects criticism, blames others.

COMMENTS:

	10	8	6	4
COUNSELING SKILLS	Always advises supervisor when interpersonal problems appear imminent. In interpersonal conflict situations, this NCO always calls in all parties involved for a discussion of the situation. He maintains an "open door" policy for his subordinates. They say he is helpful in solving personal problems.	Frequently advises supervisor when interpersonal problems occur. In interpersonal conflicts he usually calls in all the parties for a discussion. Frequently he counsels his subordinates about their personal problems.	Sometimes advises his supervisor when interpersonal problems are apparent. In interpersonal conflicts he usually talks with fellow NCOs on how to solve the problem. He tends to avoid discussion of personal problems with his subordinates.	Withholds information from supervisors when personal problems are occurring. In interpersonal conflicts he tends to believe the story given by the first person he talks to. He consistently avoids discussion of personal problems with his men.
ANTICIPATING JOB DEMANDS	Always coordinates work requirements with supervisors and/or co-workers. Prepares detailed plans for personnel and equipment needed. Personally acts to obtain the required support.	Usually coordinates work assignments with peers and supervisors. Sometimes prepares detailed plans for personnel and equipment needed. Sometimes delegates the responsibility for obtaining support needed.	Seldom coordinates assignments with others. Usually does not write detailed plans for support needed. Usually requires subordinates to obtain needed support.	Most often does not coordinate work assignment with others. Never prepares formal plans for accomplishing the work. Always requires subordinates to obtain needed personnel and equipment.

	10	8	6	4
TRAINING MANAGEMENT	Always prepares detailed plans for accomplishing training requirements.	Frequently prepares detailed plans (if required by supervisor).	Sometimes writes detailed plans for training.	Never writes detailed plans for training.
	Always reviews training objectives.	Sometimes seeks information on training objectives.	Seldom reviews training objectives.	Never reviews training objectives.
	Knowledgeable of modern training concepts and system engineering.	Has some knowledge of modern training concepts	Give "lip service" to concepts of modern training technology.	"Fights" implementation of new concepts concerning training methods.
	Shows resentment when training is given second priority to other unit requirements.	Tends to acknowledge training as a secondary requirement.	Views training as a lower mission requirement.	Views training as among the lowest priority mission requirement.
TRAINING PROCEDURES	Carefully reviews the task procedures as specified in DA manuals.	Generally reviews task procedures.	Occasionally reviews task procedures.	Never reviews task procedures.
	Learns the reason for each step that has to be performed in the tasks.	Sometimes asks why certain steps have to be performed in the task.	Seldom seeks information on why test procedures are performed in the specified order.	Teaches his own version of task procedures instead of the official task.
	Personally determines that each student can do each task correctly before going on to the next task.	Has others determine if each student can perform the task.	Lets the students determine if they are ready to move on to the next task.	Moves on to the next task without determining if students can perform present task.
	Establishes GO-NO GO standards for successful task performance.	Tends to use a 70% pass score for determining pass or fail judgment.	Uses arbitrarily established training standards.	Does not set standards for successful task performance.

	10	8	6	4
MANAGING ON-GOING WORK	Exceptionally well organized. Establishes goals and standards to be observed. Delegates responsibility.	Good organization. Generally knows how work is proceeding. Usually delegates responsibility.	Fairly well organized. Frequently checks on progress of work. Seldom delegates responsibility	Poorly organized. Always watches work of subordinates. Never delegates responsibility.
MANAGING SUBORDINATES	Always praises good work. Corrects problem immediately. Never shows anger. Always thanks subordinates for information, even if it is bad.	Often, but not always, praises good work. Corrects most problems immediately. Sometimes shows anger. Sometimes shows displeasure when given bad news.	Usually does not praise good work. Often delays in correcting problems. Frequently shows anger when things go wrong. Usually shows disgust when given bad news.	Ignores good work; Criticizes bad work. Usually delays in correcting problems. Usually shows anger if work is poorly done. Always shows disgust when given bad news.

APPENDIX D

DATA CARD FORMAT

Card No. 1   Summary of Test Scores

Cols.	Data	Missing Data Code
1-3	Test Number (001-500)	
4	Pay Grade (5-9)	
5	Card Deck No. (1)	
9-10	BABO Score (1-12)	99
13-15	BABO Score in %	999
18-20	EBA Score (1-35)	999
23-25	EBA Score in %	999
28-30	EBA Deviation Score (1-80)	999
33-35	ISH Supervisory Score in %	999
38-40	ISH Training Score in %	999
43-45	ISH Counseling Score in %	999
48-50	ISH Avg. % (Average of ISH Super, Train, Couns %)	999
53-55	NCO Avg. % (Avg. of BABO %, ISH %, and EBA %)	999
58-60	Supervisor Rating Score (1-160)	999
63-65	Months in Previous Grade	999
69-71	Months in Previous Grades Expressed as a Z Score	999

Card No. 2   BABO and ISH Responses
(missing data coded as 9)

Cols.	Data
1-3	Test Number (001-500)
4	Pay Grade (5-9)
5	Card Number (2)
11-22	BABO Responses (Coded as 1-5 corresponding to A-E)
25-33	ISH Supervisory responses (Coded as 0-4 corresponding to Never-Always)
35-44	ISH Training responses (Coded as 0-4 as above)
46-52	ISH Counseling responses (Coded as 0-4 as above)

DATA CARD FORMAT

Card No. 3   Personal Information Summary

Cols.	Data	Missing Data Code
1-3	Test No.	
4	Pay Grade	
5	Card No. (3)	
7-9	Months in present grade	999
11-13	Months in previous grade	999
15-16	Years in the Army	99
18	Maximum Rank in MOS	
20	Do You Plan To Retire? (1=Yes,2=No,3=Probably)	9
23-24	Age at Induction (in years)	99
26	Any breaks in Army service? (1=Yes, 0=No)	9
27-29	Months spent out of the service	99
42	Number of leadership courses attended	9
46-47	1st Source of Leadership Skills (1-15)	99
49-50	2nd " " " " "	99
52-53	3rd " " " " "	99
55-56	4th " " " " "	99
58-59	5th " " " " "	99
63-64	Educational Level at Induction	99

         8=8th grade or less
         11=9th -12th grade
         12=Highschool graduate
         13=First two years of college
         14=Associate Degree
         15=Last two years of College
         16=Bachelor's Degree
         17=Working on Master's
         18=Master's Degree

Cols.	Data	Missing Data Code
66-67	Present Educational Level (Coded as above)	99
70	Increase in Educational Level	9
	(Difference between ed. level at induction and present level)	
72	Degrees obtained (Number of)	9

Card No. 4   EBA Responses

Cols.	Data	Missing Data Code
1-3	Test Number	
4	Pay Grade	
5	Card No. (4)	
8-14	EBA Story 1 Responses (Coded as 1-4 corresponding to Very Few-Very Many)	9
16-22	EBA Story 2 Responses "	9
24-30	EBA Story 3 Reaponses "	9
32-38	EBA Story 4 Responses "	9
40-46	EBA Story 5 Responses "	9